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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,925	02/13/2002	Jan Bollenbeck	112740-527	1728

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EXAMINER
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LE, NHAN T

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/075,925

Applicant(s)

BOLLENBECK, JAN

Examiner

Nhan T Le

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 14, 17-23 and 30-34 is/are rejected.
- 7) ☒ Claim(s) 8-13, 15-16 and 24-29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 14, 17, 21, 22, 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makikallio et al (US 5,697,074) in view of Kosugi et al (US 5,369,789).

As to claims 1, 17, 32, Makikallio teaches a method for controlling amplification of a high-frequency intermittent signal, the method comprising the steps of: passing a radio-frequency signal in a data transmission to be amplified in a controlled loop to a variable-gain amplifier (see fig. 2, number 22, col. 2, lines 40-62), a gain being controlled by an amplifier control signal (see fig. 2, number 46, col. 2, lines 63-67, col. 3, lines 1-10); coupling out part of the amplified radio-frequency signal via a directional coupler (see fig. 2, number 26, col. 2, lines 40-54); passing the coupled out part of the amplified radio-frequency signal to a power detector (see fig. 2, number 30, col. 2, lines 40-54); passing an output voltage of the power detector for difference-forming with a separate control signal to inputs of a comparator circuit (see fig. 2, number 34, col. 2, lines 40-54); readjusting an output of the comparator circuit, as the amplifier control

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signal, to increase the power output level with the transmission burst; continuing the readjustment until the output voltage of the detector and a voltage of the separate control signal at the inputs of the comparator circuit compensate for one another (see col. 2, lines 63-67, col. 3, lines 1-10). Makikallio fails to teach keeping the control loop closed for a controlled up ramping with the transmission burst; opening the control loop and keeping the amplifier control signal constant during the period the data transmission with the transmission burst; and closing the control loop for a controlled down-ramping within the transmission burst after completion of the data transmission. Kosugi teaches keeping the control loop closed for a controlled up ramping with the transmission burst (see col. 6, lines 6-12); opening the control loop and keeping the amplifier control signal constant during the period the data transmission with the transmission burst (see col. 6, lines 13-23); and closing the control loop for a controlled down-ramping within the transmission burst after completion of the data transmission (see col. 6, lines 23-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kosugi into the system of Makikallio in order to produce the gain control signal which is supplied to the gain control terminal of the amplifier (as suggested by Kosugi col. 2, lines 61-63).

As to claim 14, the combination of Makikallio and Kosugi teaches a method for controlling amplification of a high-frequency intermittent signal further comprising the steps of: simulating a variation over time of the power output level during one of up-ramping and down-ramping by the separate control signal; and predetermining a

respectively desired power output level (see Kosugi col. 5, lines 59-68, col. 6, lines 1-36).

As to claim 21, the combination of Makikallio and Kosugi inherently teaches a unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal, wherein the comparator circuit is an operational amplifier designed as an integral-action controller.

As to claim 22, the combination of Makikallio and Kosugi teaches a unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in claim 17, further comprising a linear amplifier with a constant gain factor following the variable gain amplifier for further amplification of the radio-frequency signal to be amplified (see Makikallio fig. 2, number 24, col. 2, lines 40-54).

As to claim 31, the combination of Makikallio and Kosugi teaches a unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal, wherein the unit is contained in a mobile terminal of at least one of a cellular data network and a communication network (see Makikallio col. 1, lines 5-8).

As to claims 33-34, the claims are rejected as to claim 31.

2. Claims 2, 7, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makikallio et al (US 5,697,074) in view of Kosugi et al (US 5,369,789) and further in view of Liimatainen (US 6,370,364).

As to claims 2, 18, the combination of Makikallio and Kosugi fails to teach a

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method for controlling amplification of a high-frequency intermittent signal, the method further comprising the step of: making a switchover into a hold mode, after a controlled up-ramping of a power output level of the radio-frequency signal to be amplified, with the gain kept constant. Liimatainen teaches a method for controlling amplification of a high-frequency intermittent signal, the method further comprising the step of: making a switchover into a hold mode, after a controlled up-ramping of a power output level of the radio-frequency signal to be amplified, with the gain kept constant (see fig. 4, SW, col. 6, lines 36-56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Liimatainen into the system of Makikallio and Kosugi in order to control the gain signal at the input of the variable control amplifier.

As to claim 7, the combination of Makikallio, Kosugi and Liimatainen teaches closing a second control loop, during the hold mode in the control loop, such that the output voltage of the comparator circuit is kept at the stored value of the amplifier control signal (see Liimatainen fig. 4, 36, col. 6, lines 36-56).

3. Claims 3, 4, 5, 6, 19, 20, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makikallio et al (US 5,697,074) in view of Kosugi et al (US 5,369,789), Liimatainen (US 6,370,364) and further in view of Timmons (US 5,381,115).

As to claims 3, 19, the combination of Makikallio, Kosugi and Liimatainen fails to teach storing the amplifier control signal for constant setting in a sample-and-hold circuit before beginning the data transmission. Timmons teaches storing the amplifier control signal for constant setting in a sample-and-hold circuit before beginning the data

transmission (see fig. 2, A, col. 4, lines 15-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Timmons into the system of Makikallio, Kosugi, Liimatainen in order to update the voltage.

As to claims 4, 20, the combination of Makikallio, Kosugi, Liimatainen and Timmons teaches making a switchover into a control mode, after the hold mode with a gain kept constant, for the controlled up-ramping of the power output level of the radio-frequency signal to be amplified (see Timmons fig. 2, B, col. 4, lines 15-32).

As to claims 5, 6, the combination of Makikallio, Kosugi, Liimatainen and Timmons teaches switching is performed back and forth between the hold and the control modes, wherein the switching over from the control mode to the hold mode occurs before the data transmission and switching back from the hold mode to the control mode occurs after the data transmission (see Timmons fig. 2, A, col. 4, lines 15-32).

As to claim 30, the combination of Makikallio, Kosugi, Liimatainen and Timmons teaches a unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in claim 18, further comprising a control part for generating the separate control signal and the switch control signal based on a prescribed time pattern of a respective mobile radio standard (see Timmons col. 3, lines 46-68, col. 4, lines 1-32).

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4. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by Makikallio et al (US 5,697,074) in view of Kosugi et al (US 5,369,789) and further in view of Chorey et al (US 6,163,709).

As to claim 23, Makikallio and Kosugi fails to teach a unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal, wherein the directional coupler has a constant coupling factor of -15 dB. Chorey teaches the directional coupler has a coupling factor of -15 dB (see col. 5, lines 42-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Chorey into the system of Makikallio and Kosugi in order to couple the output signals of the operational amplifier.

#### ***Allowable Subject Matter***

Claims 8-13, 15-16, 24-29 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 8, 24, the applied reference fails to teach correcting a deviation between the output voltage of the comparator circuit and the stored value of the amplifier control signal by an additional operational amplifier in the second control loop as cited in the claim.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***



The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aihara (US 5,376,895) teaches control circuit and method for transmission output.

Mochizuki (US 6,580,901) teaches burst type transmission output power control apparatus capable of reducing phase errors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T Le whose telephone number is 571-272-7892. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nhan Le

*Nguyen T Vo*  
5-1-2005

**NGUYENT.VO  
PRIMARY EXAMINER**